

US Army Corps  
of Engineers  
Rock Island District

DRAFT

Defense Environmental Restoration Program  
For  
Formerly Used Defense Sites  
Ordnance and Explosives



## Archives Search Report

### CONCLUSIONS AND RECOMMENDATIONS

For the Former

# SANFORD NAVAL AUXILIARY AIR FACILITY

Sanford, ME

Project Number D01ME001001

March 1996



CONTROL TOWER AND HANGAR - SNAAF, SANFORD, ME

**PROJECT FACT SHEET**  
**FORMERLY USED DEFENSE SITES**  
**March 1996**

1. **SITE NAME:** Sanford Naval Auxiliary Air Facility

**SITE NUMBER:** D01ME0010

**LOCATION:**

CITY: Sanford

COUNTY: York

STATE: Maine

**PROJECT NUMBER:** D01ME001001

**CATEGORY:** OE

2. **POC:**

**GEO DIST POC:**

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**HEADQUARTERS POC:**

NAME:

OFFICE: CEMP-RF

PHONE:

3. **SITE DESCRIPTION:**

a. The former Sanford Naval Auxiliary Air Facility consisted of approximately 1,526.02 acres of land situated in York County of southern Maine, about four miles southeast of Sanford, ME, on State Highway 109 (plate 1). A considerable difference in the installation's acreage was found to exist among the archival documents that describe the facility. Extensive effort was made to resolve the differences in that acreage, but the installation's size as given in the archival documents would not correspond to the original site boundaries when compared to facility maps of the period in question. Recent land surveys and measurements of the site as well as eyewitness accounts of former

facility engineers support the documents that portray the former air station as being much smaller in size. Consequently, this investigation determined the size of this site to be approximately 1,097 acres.

b. Most of the property of the former installation is owned by the Town of Sanford and is used for the Sanford Municipal Airport. Land on the western and northern edges of the old reservation is owned by numerous commercial concerns and is used as locations for factories and businesses (plate 4). None of this land is considered to be contaminated with OE.

c. Project Areas A (the skeet range) and B (the machine gun range) may have a potential problem with lead contamination due to spent shotgun shell shot and spent bullets in the ground, respectively. These two areas are owned by the Town of Sanford.

#### 4. SITE HISTORY:

a. The Sanford Airport was started in 1929 as a company airstrip. In the next decade, it was upgraded and took on more of a public nature. During World War II, the U.S. Navy leased the facility in October 1942, to make an auxiliary airfield to assist the Brunswick Naval Air Station (NAS) in its duties of anti-submarine patrolling in the Atlantic Ocean near Portland, ME.

b. Construction to upgrade the airfield to handle naval combat aircraft began immediately and operations began in early 1943. In April 1943, the installation was commissioned the Sanford Naval Auxiliary Air Facility and the mission was changed to that of a training site for naval aviators. The broad mission of the facility was to provide ground training in the skills required to operate airplanes from an aircraft carrier without the inherent dangers of the real thing. In December 1943, land was purchased adjacent to two sides of the leased land, and the facility was expanded.

c. At first, British pilots were taught the procedures and techniques of flying U.S. airplanes from aircraft carriers, due to the availability of U.S. equipment to them through the Lend Lease Act. Later, American crews were the only personnel trained at the facility. In early 1945, the mission changed to torpedo training of aircraft crews.

d. The installation was closed shortly after the war and was placed in a caretaker status. The lease was terminated in June 1947, and that property was returned to the Town of Sanford to be used as a public airport. In December 1947, all of the property and some of the buildings were granted to the town to be used with the airport, and the following July, the remainder of the Navy property at the former Sanford Naval Auxiliary Air Facility was given to Sanford. In the early 1950's, actions were

taken by the Navy to reclaim the airport property for use as a naval air station, but other decisions were made that did not include the site. Later, attempts to regain the site as an auxiliary airfield for Brunswick NAS also failed.

## 5. PROJECT DESCRIPTION:

### Area A:

Size, Acres:	7.30
Former Usage:	Skeet range
Present Usage:	Runway safety zone
Probable End Usage:	Same
Ordnance Presence:	None
Types:	Lead residue
Density:	
Ordnance Depth:	
Risk Assessment:	5

### Area B:

Size, Acres:	3.12
Former Usage:	Machine gun range
Present Usage:	Not used
Probable End Usage:	Same
Ordnance Presence:	None
Types:	Lead residue
Density:	
Ordnance Depth:	
Risk Assessment:	5

### Area C:

Size, Acres:	5.56
Former Usage:	Magazine area
Present Usage:	Miscellaneous storage
Probable End Usage:	Same
Ordnance Presence:	None
Types:	
Density:	
Ordnance Depth:	
Risk Assessment:	5

### Area D:

Size, Acres:	1,081.02
Former Usage:	Auxiliary naval airfield
Present Usage:	Municipal airport, commercial establishments, and forested areas
Probable End Usage:	Same
Ordnance Presence:	None
Types:	
Density:	
Ordnance Depth:	
Risk Assessment:	5

6. STRATEGY:

Area A: No further action  
Area B: No further action  
Area C: No further action  
Area D: No further action

7. ISSUES AND CONCERNS:

Area A: Uncontaminated  
Area B: Uncontaminated  
Area C: Uncontaminated  
Area D: Uncontaminated

8. CURRENT STATUS:

PA: 100%  
ASR: 100%  
INTERIM RESPONSE ACTION: N/A  
EE/CA:  
Area A: None required at this time  
Area B: None required at this time  
Area C: None required at this time  
Area D: None required at this time  
  
RD: Not scheduled  
RA: Not scheduled

9. SCHEDULE SUMMARY:

<u>Phase</u>	<u>Orig</u> <u>Start</u>	<u>Sch</u> <u>Start</u>	<u>Actual</u> <u>Start</u>	<u>Orig</u> <u>Comp</u>	<u>Sch</u> <u>Comp</u>	<u>Actual</u> <u>Comp</u>
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10. FUNDING/BUDGET SUMMARY:

<u>Year</u>	<u>Phase</u>	<u>Exec</u> <u>FOA</u>	<u>In House</u> <u>Required</u>	<u>Contract</u> <u>Required</u>	<u>Funds</u> <u>Obligated</u>
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DEFENSE ENVIRONMENTAL RESTORATION PROGRAM  
for  
FORMERLY USED DEFENSE SITES

CONCLUSIONS AND RECOMMENDATIONS

ORDNANCE AND EXPLOSIVES  
ARCHIVES SEARCH REPORT  
FOR THE FORMER  
SANFORD NAVAL AUXILIARY AIR FACILITY  
SANFORD, ME  
PROJECT NUMBER D01ME001001

March 1996

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ORDNANCE AND EXPLOSIVES  
ARCHIVES SEARCH REPORT  
FOR THE FORMER  
SANFORD NAVAL AUXILIARY AIR FACILITY  
SANFORD, ME  
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ACKNOWLEDGMENT				
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ORDNANCE AND EXPLOSIVES  
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CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are provided by the Archives Search Report Team. These recommendations may not be the actions taken to remediate this site.

TABLE OF CONTENTS

Section	Page
1. INTRODUCTION.....	1
a. Subject and Purpose	
b. Scope	
2. CONCLUSIONS.....	2
a. Summary of Conclusions	
b. Historical Site Summary	
c. Site Eligibility	
d. Visual Site Inspection	
e. Confirmed Ordnance Areas	
f. Potential Ordnance Areas	
g. Uncontaminated Ordnance Areas	
h. Other Environmental Hazards	
3. RECOMMENDATIONS.....	6
a. Summary of Recommendations	
b. Preliminary Assessment Actions	
c. Ordnance and Explosive Waste Actions	
d. Other Environmental Remediation Actions	

TABLES

TABLE 2-1	SUMMARY OF CONCLUSIONS
TABLE 3-1	SUMMARY OF RECOMMENDATIONS

#### ATTACHMENTS

- A. Risk Assessment, Area A
- B. Risk Assessment, Area B
- C. Risk Assessment, Area C
- D. Risk Assessment, Area D
- E. Risk Assessment, Entire Site

#### REPORT PLATES

- 1. Site Map
- 2. Facility Layout 30 June 1945
- 3. Project Areas
- 4. Current Ownership (1995) and Photo Locations

ORDNANCE AND EXPLOSIVES  
ARCHIVES SEARCH REPORT  
FOR THE FORMER  
SANFORD NAVAL AUXILIARY AIR FACILITY  
SANFORD, ME  
PROJECT NUMBER D01ME001001

1. INTRODUCTION

a. **Subject and Purpose**

(1) This report presents the conclusions and recommendations of an historical records search and site inspection for ordnance and explosives (OE) presence located at the former Sanford Naval Auxiliary Air Facility, Sanford, York County, Maine.

(2) The purpose of this investigation was to characterize the site for actual and/or potential ordnance/chemical warfare materiel (CWM) contamination, using available historical records, interviews, and the results of the on-site visual inspection.

(3) For the purpose of this report, OE is considered unwanted and abandoned ammunition or components thereof, which contains or contained energetic, toxic, or radiological materials, and was manufactured, purchased, stored, used, and/or disposed of by the War Department.

b. **Scope**

(1) The investigation focused on 1,526.02 acres of land that was used by the War Department as a training facility during World War II (WW II) for instructing naval aviators in aircraft carrier flight operations.

(2) The conclusions and recommendations presented in this report were drawn from available records and the visual site inspection. The conclusions, including ordnance risk assessments, were based on documented and reasonably inferred evidence from the investigation. The recommendations made are based on present DERP-FUDS program goals and policies, with implementation subject to approval and appropriate funding actions.

## 2. CONCLUSIONS

### a. Summary of Conclusions

Table 2-1 has been provided to summarize conclusions made on confirmed or potential OE on the former Sanford Naval Auxiliary Air Facility property.



## **b. Historical Site Summary**

(1) The Sanford Airport was started in 1929 as a company airstrip. In the next decade, it was upgraded, paved, and took on more of a public nature. In October 1942, in the middle of World War II, the U.S. Navy leased the facility to make an auxiliary airfield to assist the Brunswick Naval Air Station (NAS) in its duties of anti-submarine patrolling in the Atlantic Ocean near Portland, ME, and in servicing shipborne aircraft in Casco Bay (see plate 1).

(2) Construction to upgrade the airfield to handle naval combat aircraft began immediately and patrolling operations began in early 1943. In April 1943, the installation was commissioned the U.S. Naval Auxiliary Air Facility, Sanford, Maine, and the mission was changed to ground training of naval aviators in the skills required to operate airplanes from an aircraft carrier. This included free gunnery, bombing, aircraft recognition, launching from a catapult, and landing with arresting gear. In December 1943, land was purchased adjacent to two sides of the leased land to augment the facility's capabilities (see plate 2).

(3) At first, British pilots were the only students at the Sanford training facility. They were taught the procedures and techniques of flying U.S. airplanes from aircraft carriers, due to the availability of U.S. equipment to them through the Lend Lease Act. Later, the British airmen ceased training at Sanford, and American crews were the only personnel training there. In early 1945, the mission changed again. Torpedo training of aircraft crews was the only thing taught at the Sanford site.

(4) The installation was closed shortly after the war and was placed in a caretaker status. The lease was terminated in June 1947, and that property was returned to the Town of Sanford to be used as a public airport. On 30 December 1947, all of the government-owned property and some of the buildings were granted to the town to be used in conjunction with the airport. The following February, the lease on the easement land was terminated, and in July 1948, the remainder of the Navy property at the former Sanford Naval Auxiliary Air Facility was given to Sanford.

(5) In the early 1950's, actions were taken by the Navy to reclaim the airport property for use as a naval air station, but the installation at Brunswick was chosen instead, and the airport at Sanford remained in the hands of the town. A later attempt was made to regain the site as an auxiliary airfield for Brunswick NAS, but that also failed.

### **c. Site Eligibility**

(1) Former land usage by the War Department was previously confirmed for this 1,526.02-acre site as summarized in sections 2b(1) through (5) of this report. The site continued to be used until shortly after the end of World War II, when the Government decided that it no longer needed the facility. The Navy kept the installation in a caretaker status and operated it jointly with the Town of Sanford until December 1947, when the government-owned land on the site and most of the buildings were given to the town for use as a public airport. On 15 July 1948, the remaining buildings and equipment from the naval facility were given to the town for use with the airport (see plate 2).

(2) The quitclaim deed of December 1947 restricted the use of the 270.9 acres of government-owned land to use as a public airport. No buildings could be erected on that property which could restrict its use as an airport. The deed also reserved the right for the Navy to store property on the 114.4-acre tract in the southern part of the reservation until that property could be disposed of. It also provided for use of the airfield by itinerant government aircraft. The supplemental quitclaim deed of 15 July 1948, granted the remaining buildings and equipment to the town for use on the airport, and reserved the fissionable material rights on the site for the Government and the right to mine to get them if necessary. If the town failed to abide by any of the restrictions to these deeds, the former air station would revert to the control of the Government. In addition, both the deeds and the lease termination also contained a recapture clause that the property would revert to government control if it was needed in case of a national emergency.

### **d. Visual Site Inspection**

(1) The site inspection of the former Sanford Naval Auxiliary Air Facility was conducted during the period of 24 through 27 October 1995. The team visited the 1,526.02-acre site and found no ordnance or evidence of OE contamination on or around the site.

(2) Interviews with site-related personnel and local authorities revealed no evidence of OE presence in any of the project areas (see plate 3).

### **e. Confirmed Ordnance Areas**

(1) Confirmation of ordnance presence is based on verifiable historical evidence or direct witness of ordnance items.

(2) There was no evidence of any OE presence in any area of the site. Interviews with local individuals indicated that no contamination had been found (see plate 3).

#### **f. Potential Ordnance Areas**

Potential ordnance contamination is based on a lack of confirmed ordnance. Potential ordnance contamination is inferred from records or indirect witness. Inference from historical records would include common practice in production, storage, usage, or disposal, at that time, which could have allowed present day ordnance contamination. No areas were discovered on the site that could be considered potentially contaminated (see plate 3).

#### **g. Uncontaminated Ordnance Areas**

Uncontaminated ordnance subsites are based on a lack of confirmed or potential ordnance evidence. Areas A, B, C, and D are considered to be uncontaminated (see plate 3).

#### **h. Other Environmental Hazards**

(1) The possibility of HTRW contamination exists in the skeet range (Area A) and the machine gun range (Area B) due to deterioration of lead shot and bullets in the ground. Further investigation may be warranted to determine if lead decay in the ground is affecting the soil, ground water, and surface water.

(2) There was no evidence noted during the investigation that would make this site eligible for BD/DR considerations.

### **3. RECOMMENDATIONS**

#### **a. Summary of Recommendations**

Table 3-1 provides a summary of recommended actions.

**TABLE 3-1**  
**SUMMARY OF RECOMMENDATIONS**

Area	Former Usage	Size Acres 1/	PA ACTIONS		OEW ACTIONS			HTRW ACTIONS	BD/DR ACTIONS
			Prepare INPR	No Further Action	Perform ASR	Implement Interim Response	Perform EE/CA	Perform SI	Perform SI
A	Skeet Range	7.30	-	Yes	-	-	-	Yes	-
B	Machine Gun Range	3.12	-	Yes	-	-	-	Yes	-
C	Magazine Area	5.56	-	Yes	-	-	-	-	-
D	Auxiliary Naval Airfield	1,081.02 2/	-	Yes	-	-	-	-	-

1/ Acreage is approximate.

2/ See Paragraph 3b(2) for an explanation of the 429.02-acre difference relating to the facility's size.

#### **b. Preliminary Assessment Actions**

(1) The preliminary assessment of the former Sanford Naval Auxiliary Air Facility and the Findings and Determination of Eligibility (FDE) describe the 1,526.02 acres as owned and used by the War Department.

(2) A difference in the amount of acreage leased for the air station is evident in the archival documents that outline the attributes of the property. Recent land surveys of the site and eyewitness accounts lend credence to the fact that the actual boundaries of the project site are not consistent with the total size of 1,526.02 acres. These accounts support the documents which list the size of the installation at 1,097 acres. A considerable effort was made during this investigation to resolve these differences in the acreage, but the installation's size as given in the archival documents would not correspond to the original site boundaries when compared to facility maps of the period in question. The USACE Division Office may want to reassess the available real estate documents and the current surveys of the former facility to validate the acreage listed in the FDE.

#### **c. Ordnance and Explosive Waste Actions**

Areas A, B, C, and D: No further action is required.

#### **d. Other Environmental Remediation Actions**

(1) HTRW remedial actions are recommended to determine if lead decay from shot and bullets is influencing the soil, ground water, and surface water of the skeet range (Area A) and the machine gun range (Area B) (see plates 2 and 3).

(2) No BD/DR projects are recommended.

ORDNANCE AND EXPLOSIVES  
ARCHIVES SEARCH REPORT  
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ATTACHMENT A  
RISK ASSESSMENT

17 Mar 95

Previous editions obsolete

RISK ASSESSMENT PROCEDURES FOR  
ORDNANCE AND EXPLOSIVES (OE) SITES

Site Name	<u>Sanford Naval Air Sta.</u>	Rater's Name	<u>Greg Lippman</u>
Site Location	<u>Sanford, ME</u>	Phone No.	<u>(815) 273-8038</u>
DERP Project #	<u>D01ME001001</u>	Organization	<u>CENCR-ED-DO/SIOAC-ESL</u>
Date Completed	<u>28 November 1995</u>	RAC Score	<u>5 (Area A)</u>

## OE RISK ASSESSMENT:

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The RAC score will be used by CEHND to prioritize the remedial action at Formerly Used Defense Sites. The OE risk assessment should be based upon best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) detachment actions, and field observations, interviews, and measurements. This information is used to assess the risk involved based upon the potential OE hazards identified at the site. The risk assessment is composed of two factors, **hazard severity** and **hazard probability**. Personnel involved in visits to potential OE sites should view the CEHND videotape entitled "A Life Threatening Encounter: OE."

Part 1. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible mishap resulting from personnel exposure to various types and quantities of unexploded ordnance items.

TYPES OF ORDNANCE  
(Circle all values that apply)

A. Conventional Ordnance and Ammunition	VALUE
Medium/Large Caliber (20 mm and larger)	10
Bombs, Explosive	10
Grenades, Hand and Rifle, Explosive	10
Landmines, Explosive	10
Rockets, Guided Missiles, Explosive	10
Detonators, Blasting Caps, Fuzes, Boosters, Bursters	6
Bombs, Practice (w/spotting charges)	6
Grenades, Practice (w/spotting charges)	4
Landmines, Practice (w/spotting charges)	4
Small Arms, Complete round (.22 cal-.50 cal)	1
Small Arms, Expended	0

Conventional Ordnance and Ammunition

0

(Select the largest single value)

What evidence do you have regarding conventional OE?

B. Pyrotechnics. (For munitions not described above)

VALUE

Munition (Container) Containing  
White Phosphorous or other  
Pyrophoric Material (i.e.,  
Spontaneously Flammable) 10

Munition Containing a Flame  
or Incendiary Material (i.e. Napalm,  
Triethylaluminum Metal Incendiaries) 6

Flares, Signals, Simulators, Screening  
Smoke (other than WP) 4

Pyrotechnics (Select the largest single value) 0

What evidence do you have regarding pyrotechnics? \_\_\_\_\_

---

C. Bulk High Explosives (Not an integral part of convention ordnance;  
uncontainerized.)

VALUE

Primary or Initiating Explosive  
(Lead Styphnate, Lead Azide,  
Nitroglycerin, Mercury Azide,  
Mercury Fulminate, Tetracene, etc.) 10

Demolition Charges 10

Secondary Explosives 8  
(PETN, Composition A, B, C,  
Tetryl, TNT, RDX, HMX, HBX,  
Black Powder, etc).

Military Dynamite 6

Less Sensitive Explosives 3  
(Ammonium Nitrate, Explosive D, etc).

High Explosives (Select the largest single value) 0

What evidence do you have regarding bulk explosives? \_\_\_\_\_

---

D. Bulk Propellants (Not an integral part of rockets, guided missiles, or  
other conventional ordnance; uncontainerized)

VALUE

Solid or Liquid Propellants 6

Propellants 0

What evidence do you have regarding propellants? \_\_\_\_\_

E. Chemical Warfare Material and Radiological Weapons

	VALUE
Toxic Chemical Agents (Choking, Nerve, Blood, Blister)	25
War Gas Identification Sets	20
Radiological	15
Riot Control and Miscellaneous (Vomiting, Tear)	5
Chemical and Radiological (Select the largest single value)	<u>0</u>
What evidence do you have of chemical/radiological OE?	<u>                    </u>

=====

TOTAL HAZARD SEVERITY VALUE 0  
 (Sum of Largest Values for A through E--Maximum of 61).  
 Apply this value to Table 1 to determine Hazard Severity Category.

TABLE 1

HAZARD SEVERITY\*

Description	Category	Hazard Severity Value
CATASTROPHIC	I	21 and greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	(IV)	1 to 4
**NONE		0

\* Apply Hazard Severity Category to Table 3.

\*\* If Hazard Severity Value is 0, you do not need to complete Part II. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.

Part II. Hazard Probability. The probability that a hazard has been or will be created due to the presence and other related factors of unexploded ordnance or explosive materials on a formerly used DOD site.

AREA, EXTENT, ACCESSIBILITY OF CONTAMINATION  
(Circle all values that apply)

A. Locations of OE Hazards

	VALUE
On the surface	5
Within Tanks, Pipes, Vessels or Other confined locations	4
Inside walls, ceilings, or other parts of Buildings or Structures	3
Subsurface	2
Location ( <u>Select the single largest value</u> )	_____
What evidence do you have regarding location of OE?	_____
	_____
	_____

B. Distance to nearest inhabited locations or structures likely to be at risk from OE hazard (roads, parks, playgrounds, and buildings).

	VALUE
Less than 1250 feet	5
1250 feet to 0.5 miles	4
0.5 miles to 1.0 miles	3
1.0 miles to 2.0 miles	2
Over 2 miles	1
Distance ( <u>Select the single largest value</u> )	_____
What are the nearest inhabited structures?	_____
	_____
	_____

C. Number of buildings within a 2 mile radius measured from the OE hazard area, not the installation boundary.

	VALUE
26 and over	5
16 to 25	4
11 to 15	3
6 to 10	2
1 to 5	1
0	0
Number of Buildings ( <u>Select the single largest value</u> )	_____
Narrative _____	_____

D. Types of Buildings (within a 2 mile radius)

	VALUE
Educational, Child Care, Residential, Hospitals, Hotels, Commercial, Shopping Centers	5
Industrial, Warehouse, etc.	4
Agricultural, Forestry, etc.	3
Detention, Correctional	2
No Buildings	0
Types of Buildings ( <u>Select the largest single value</u> )	_____
Describe types of buildings in the area. _____	_____

E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:

BARRIER	VALUE
No barrier or security system	5
Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing.	4
A barrier, (of any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	3
Security guard, but no barrier	2
Isolated Site	1
a 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility, or An artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry, at all times, through the gates or other entrances to the facility (e.g., an attendant, television monitor, locked entrance, or controlled roadway access to the facility).	0
Accessibility ( <u>Select the single largest value</u> )	_____
Describe the site accessibility. _____	
_____	
_____	

F. Site Dynamics - This deals with site conditions that are subject to change in the future, but may be stable at the present. Example would be excessive soil erosion by beaches or streams, increasing land development that could reduce distance from the site to inhabited areas or otherwise increase accessibility.

	VALUE
Expected	5
None Anticipated	0
Site Dynamics ( <u>Select largest value</u> )	_____
Describe the site dynamics. _____	
_____	
_____	

=====

Total Hazard Probability Value  
(Sum of Largest Values for A through F--Maximum of 30)

\_\_\_\_\_

Apply this value to Hazard Probability Table 2 to determine  
Hazard Probability Level.

TABLE 2

HAZARD PROBABILITY\*

Description	Level	Hazard Probability Value
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

-----

\* Apply Hazard Probability Level to Table 3.

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Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table 3. Enter with the results of the hazard probability and hazard severity values.

TABLE 3

Probability Level		FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
Severity Category:						
CATASTROPHIC	I	1	1	2	3	4
CRITICAL	II	1	2	3	4	5
MARGINAL	III	2	3	4	4	5
NEGLIGIBLE	IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

- RAC 1 Expedite INPR, recommending further action by CEHND - Immediately call CEHND-OE-ES - commercial (205) 895-1582 or DSN 645-1582.
- RAC 2 High priority on completion of INPR - Recommend further action by CEHND.
- RAC 3 Complete INPR - Recommend further action by CEHND.
- RAC 4 Complete INPR - Recommend further action by CEHND.
- RAC 5** Usually indicates that no further action (NOFA) is necessary. Submit NOFA and RAC to CEHND.

Part IV. Narrative. Summarize the documented evidence that support this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

Even though this subsite has been designated RAC 5, the possibility exists of lead contamination in the soil due to spent shotgun shell shot. This possible contamination may warrant further investigation but should be placed in a low priority status.

ORDNANCE AND EXPLOSIVES  
ARCHIVES SEARCH REPORT  
FOR THE FORMER  
SANFORD NAVAL AUXILIARY AIR FACILITY  
SANFORD, ME  
PROJECT NUMBER D01ME001001

ATTACHMENT B  
RISK ASSESSMENT

17 Mar 95

Previous editions obsolete

RISK ASSESSMENT PROCEDURES FOR  
ORDNANCE AND EXPLOSIVES (OE) SITES

Site Name	<u>Sanford Naval Air Sta.</u>	Rater's Name	<u>Greg Lippman</u>
Site Location	<u>Sanford, ME</u>	Phone No.	<u>(815) 273-8038</u>
DERP Project #	<u>D01ME001001</u>	Organization	<u>CENCR-ED-DO/SIOAC-ESL</u>
Date Completed	<u>28 November 1995</u>	RAC Score	<u>5 (Area B)</u>

OE RISK ASSESSMENT:

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The RAC score will be used by CEHND to prioritize the remedial action at Formerly Used Defense Sites. The OE risk assessment should be based upon best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) detachment actions, and field observations, interviews, and measurements. This information is used to assess the risk involved based upon the potential OE hazards identified at the site. The risk assessment is composed of two factors, **hazard severity** and **hazard probability**. Personnel involved in visits to potential OE sites should view the CEHND videotape entitled "A Life Threatening Encounter: OE."

Part 1. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible mishap resulting from personnel exposure to various types and quantities of unexploded ordnance items.

TYPES OF ORDNANCE  
(Circle all values that apply)

A. Conventional Ordnance and Ammunition	VALUE
Medium/Large Caliber (20 mm and larger)	10
Bombs, Explosive	10
Grenades, Hand and Rifle, Explosive	10
Landmines, Explosive	10
Rockets, Guided Missiles, Explosive	10
Detonators, Blasting Caps, Fuzes, Boosters, Bursterns	6
Bombs, Practice (w/spotting charges)	6
Grenades, Practice (w/spotting charges)	4
Landmines, Practice (w/spotting charges)	4
Small Arms, Complete round (.22 cal-.50 cal)	1
Small Arms, Expended	(0)

Conventional Ordnance and Ammunition

0

(Select the largest single value)

What evidence do you have regarding conventional OE? \_\_\_\_\_

B. Pyrotechnics. (For munitions not described above)

	VALUE
Munition (Container) Containing White Phosphorous or other Pyrophoric Material (i.e., Spontaneously Flammable)	10
Munition Containing a Flame or Incendiary Material (i.e. Napalm, Triethylaluminum Metal Incendiaries)	6
Flares, Signals, Simulators, Screening Smoke (other than WP)	4
Pyrotechnics (Select the largest single value)	<u>0</u>
What evidence do you have regarding pyrotechnics?	_____

---

C. Bulk High Explosives (Not an integral part of convention ordnance;  
uncontainerized.)

	VALUE
Primary or Initiating Explosive (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10
Demolition Charges	10
Secondary Explosives (PETN, Composition A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc).	8
Military Dynamite	6
Less Sensitive Explosives (Ammonium Nitrate, Explosive D, etc).	3
High Explosives (Select the largest single value)	<u>0</u>
What evidence do you have regarding bulk explosives?	_____

---

D. Bulk Propellants (Not an integral part of rockets, guided missiles, or  
other conventional ordnance; uncontainerized)

	VALUE
Solid or Liquid Propellants	6
Propellants	<u>0</u>
What evidence do you have regarding propellants?	_____

---

E. Chemical Warfare Material and Radiological Weapons

	VALUE
Toxic Chemical Agents (Choking, Nerve, Blood, Blister)	25
War Gas Identification Sets	20
Radiological	15
Riot Control and Miscellaneous (Vomiting, Tear)	5
Chemical and Radiological ( <u>Select the largest single value</u> )	<u>0</u>
What evidence do you have of chemical/radiological OE?	_____

=====

TOTAL HAZARD SEVERITY VALUE 0  
 (Sum of Largest Values for A through E--Maximum of 61).  
 Apply this value to Table 1 to determine Hazard Severity Category.

TABLE 1

HAZARD SEVERITY\*

Description	Category	Hazard Severity Value
CATASTROPHIC	I	21 and greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	(IV)	1 to 4
**NONE		0

\* Apply Hazard Severity Category to Table 3.

\*\* If Hazard Severity Value is 0, you do not need to complete Part II. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.

Part II. Hazard Probability. The probability that a hazard has been or will be created due to the presence and other related factors of unexploded ordnance or explosive materials on a formerly used DOD site.

AREA, EXTENT, ACCESSIBILITY OF CONTAMINATION  
(Circle all values that apply)

A. Locations of OE Hazards

	VALUE
On the surface	5
Within Tanks, Pipes, Vessels or Other confined locations	4
Inside walls, ceilings, or other parts of Buildings or Structures	3
Subsurface	2
Location ( <u>Select the single largest value</u> )	_____
What evidence do you have regarding location of OE?	_____
_____	_____
_____	_____

B. Distance to nearest inhabited locations or structures likely to be at risk from OE hazard (roads, parks, playgrounds, and buildings).

	VALUE
Less than 1250 feet	5
1250 feet to 0.5 miles	4
0.5 miles to 1.0 miles	3
1.0 miles to 2.0 miles	2
Over 2 miles	1
Distance ( <u>Select the single largest value</u> )	_____
What are the nearest inhabited structures?	_____
_____	_____
_____	_____

C. Number of buildings within a 2 mile radius measured from the OE hazard area, not the installation boundary.

	VALUE
26 and over	5
16 to 25	4
11 to 15	3
6 to 10	2
1 to 5	1
0	0
Number of Buildings ( <u>Select the single largest value</u> )	_____
Narrative _____	_____

D. Types of Buildings (within a 2 mile radius)

	VALUE
Educational, Child Care, Residential, Hospitals, Hotels, Commercial, Shopping Centers	5
Industrial, Warehouse, etc.	4
Agricultural, Forestry, etc.	3
Detention, Correctional	2
No Buildings	0
Types of Buildings ( <u>Select the largest single value</u> )	_____
Describe types of buildings in the area. _____	_____

E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:

BARRIER	VALUE
No barrier or security system	5
Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing.	4
A barrier, (of any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	3
Security guard, but no barrier	2
Isolated Site	1
a 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility, or An artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry, at all times, through the gates or other entrances to the facility (e.g., an attendant, television monitor, locked entrance, or controlled roadway access to the facility).	0
Accessibility ( <u>Select the single largest value</u> )	_____
Describe the site accessibility. _____	
_____	
_____	

F. Site Dynamics - This deals with site conditions that are subject to change in the future, but may be stable at the present. Example would be excessive soil erosion by beaches or streams, increasing land development that could reduce distance from the site to inhabited areas or otherwise increase accessibility.

	VALUE
Expected	5
None Anticipated	0
Site Dynamics ( <u>Select largest value</u> )	_____
Describe the site dynamics. _____	
_____	
_____	

=====

Total Hazard Probability Value  
(Sum of Largest Values for A through F--Maximum of 30)

\_\_\_\_\_

Apply this value to Hazard Probability Table 2 to determine  
Hazard Probability Level.

TABLE 2

HAZARD PROBABILITY\*

Description	Level	Hazard Probability Value
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

-----

\* Apply Hazard Probability Level to Table 3.

-----

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table 3. Enter with the results of the hazard probability and hazard severity values.

TABLE 3

Probability Level		FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
Severity Category:						
CATASTROPHIC	I	1	1	2	3	4
CRITICAL	II	1	2	3	4	5
MARGINAL	III	2	3	4	4	5
NEGLIGIBLE	IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

- RAC 1 Expedite INPR, recommending further action by CEHND - Immediately call CEHND-OE-ES - commercial (205) 895-1582 or DSN 645-1582.
- RAC 2 High priority on completion of INPR - Recommend further action by CEHND.
- RAC 3 Complete INPR - Recommend futher action by CEHND.
- RAC 4 Complete INPR - Recommend futher action by CEHND.
- RAC 5

 Usually indicates that no further action (NOFA) is necessary. Submit NOFA and RAC to CEHND.

Part IV. Narrative. Summarize the documented evidence that support this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

Even though this subsite has been designated RAC 5, the possibility exists of lead contamination in the soil, the ground water, and surface water due to large quantities of spent bullets in the target butt area of the machine gun range. Its close proximity to the newly created wetlands in the southern reaches of the airport property and the possible influence each might have on the other may prompt further investigation. This, however, should be placed in a low priority status.

ORDNANCE AND EXPLOSIVES  
ARCHIVES SEARCH REPORT  
FOR THE FORMER  
SANFORD NAVAL AUXILIARY AIR FACILITY  
SANFORD, ME  
PROJECT NUMBER D01ME001001

ATTACHMENT C  
RISK ASSESSMENT

17 Mar 95

Previous editions obsolete

# RISK ASSESSMENT PROCEDURES FOR ORDNANCE AND EXPLOSIVES (OE) SITES

Site Name	<u>Sanford Naval Air Sta.</u>	Rater's Name	<u>Greg Lippman</u>
Site Location	<u>Sanford, ME</u>	Phone No.	<u>(815) 273-8038</u>
DERP Project #	<u>D01ME001001</u>	Organization	<u>CENCR-ED-DO/SIOAC-ESL</u>
Date Completed	<u>28 November 1995</u>	RAC Score	<u>5 (Area C)</u>

## OE RISK ASSESSMENT:

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The RAC score will be used by CEHND to prioritize the remedial action at Formerly Used Defense Sites. The OE risk assessment should be based upon best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) detachment actions, and field observations, interviews, and measurements. This information is used to assess the risk involved based upon the potential OE hazards identified at the site. The risk assessment is composed of two factors, **hazard severity** and **hazard probability**. Personnel involved in visits to potential OE sites should view the CEHND videotape entitled "A Life Threatening Encounter: OE."

Part 1. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible mishap resulting from personnel exposure to various types and quantities of unexploded ordnance items.

## TYPES OF ORDNANCE (Circle all values that apply)

A. Conventional Ordnance and Ammunition	VALUE
Medium/Large Caliber (20 mm and larger)	10
Bombs, Explosive	10
Grenades, Hand and Rifle, Explosive	10
Landmines, Explosive	10
Rockets, Guided Missiles, Explosive	10
Detonators, Blasting Caps, Fuzes, Boosters, Bursters	6
Bombs, Practice (w/spotting charges)	6
Grenades, Practice (w/spotting charges)	4
Landmines, Practice (w/spotting charges)	4
Small Arms, Complete round (.22 cal-.50 cal)	1
Small Arms, Expended	0
Conventional Ordnance and Ammunition (Select the largest single value)	<u>0</u>
What evidence do you have regarding conventional OE?	<u></u>

B. Pyrotechnics. (For munitions not described above)

VALUE

Munition (Container) Containing  
White Phosphorous or other  
Pyrophoric Material (i.e.,  
Spontaneously Flammable)

10

Munition Containing a Flame  
or Incendiary Material (i.e. Napalm,  
Triethylaluminum Metal Incendiaries)

6

Flares, Signals, Simulators, Screening  
Smoke (other than WP)

4

Pyrotechnics (Select the largest single value)

0

What evidence do you have regarding pyrotechnics? \_\_\_\_\_

C. Bulk High Explosives (Not an integral part of convention ordnance;  
uncontainerized.)

VALUE

Primary or Initiating Explosive  
(Lead Styphnate, Lead Azide,  
Nitroglycerin, Mercury Azide,  
Mercury Fulminate, Tetracene, etc.)

10

Demolition Charges

10

Secondary Explosives  
(PETN, Composition A, B, C,  
Tetryl, TNT, RDX, HMX, HBX,  
Black Powder, etc).

8

Military Dynamite

6

Less Sensitive Explosives  
(Ammonium Nitrate, Explosive D, etc).

3

High Explosives (Select the largest single value)

0

What evidence do you have regarding bulk explosives? \_\_\_\_\_

D. Bulk Propellants (Not an integral part of rockets, guided missiles, or  
other conventional ordnance; uncontainerized)

VALUE

Solid or Liquid Propellants

6

Propellants

0

What evidence do you have regarding propellants? \_\_\_\_\_

E. Chemical Warfare Material and Radiological Weapons

	VALUE
Toxic Chemical Agents (Choking, Nerve, Blood, Blister)	25
War Gas Identification Sets	20
Radiological	15
Riot Control and Miscellaneous (Vomiting, Tear)	5
Chemical and Radiological ( <u>Select the largest single value</u> )	<u>0</u>
What evidence do you have of chemical/radiological OE?	<u>                    </u>

=====

TOTAL HAZARD SEVERITY VALUE 0  
 (Sum of Largest Values for A through E--Maximum of 61).  
 Apply this value to Table 1 to determine Hazard Severity Category.

TABLE 1

HAZARD SEVERITY\*

Description	Category	Hazard Severity Value
CATASTROPHIC	I	21 and greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	(IV)	1 to 4
**NONE		0

\* Apply Hazard Severity Category to Table 3.

\*\* If Hazard Severity Value is 0, you do not need to complete Part II. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.

Part II. Hazard Probability. The probability that a hazard has been or will be created due to the presence and other related factors of unexploded ordnance or explosive materials on a formerly used DOD site.

AREA, EXTENT, ACCESSIBILITY OF CONTAMINATION  
(Circle all values that apply)

A. Locations of OE Hazards

	VALUE
On the surface	5
Within Tanks, Pipes, Vessels or Other confined locations	4
Inside walls, ceilings, or other parts of Buildings or Structures	3
Subsurface	2
Location ( <u>Select the single largest value</u> )	_____
What evidence do you have regarding location of OE?	_____
_____	_____
_____	_____

B. Distance to nearest inhabited locations or structures likely to be at risk from OE hazard (roads, parks, playgrounds, and buildings).

	VALUE
Less than 1250 feet	5
1250 feet to 0.5 miles	4
0.5 miles to 1.0 miles	3
1.0 miles to 2.0 miles	2
Over 2 miles	1
Distance ( <u>Select the single largest value</u> )	_____
What are the nearest inhabited structures?	_____
_____	_____
_____	_____

C. Number of buildings within a 2 mile radius measured from the OE hazard area, not the installation boundary.

	VALUE
26 and over	5
16 to 25	4
11 to 15	3
6 to 10	2
1 to 5	1
0	0
Number of Buildings ( <u>Select the single largest value</u> )	_____
Narrative _____	_____

D. Types of Buildings (within a 2 mile radius)

	VALUE
Educational, Child Care, Residential, Hospitals, Hotels, Commercial, Shopping Centers	5
Industrial, Warehouse, etc.	4
Agricultural, Forestry, etc.	3
Detention, Correctional	2
No Buildings	0
Types of Buildings ( <u>Select the largest single value</u> )	_____
Describe types of buildings in the area. _____	_____

E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:

BARRIER	VALUE
No barrier or security system	5
Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing.	4
A barrier, (of any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	3
Security guard, but no barrier	2
Isolated Site	1
a 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility, or An artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry, at all times, through the gates or other entrances to the facility (e.g., an attendant, television monitor, locked entrance, or controlled roadway access to the facility).	0
Accessibility ( <u>Select the single largest value</u> )	_____
Describe the site accessibility. _____	
_____	
_____	

F. Site Dynamics - This deals with site conditions that are subject to change in the future, but may be stable at the present. Example would be excessive soil erosion by beaches or streams, increasing land development that could reduce distance from the site to inhabited areas or otherwise increase accessibility.

	VALUE
Expected	5
None Anticipated	0
Site Dynamics ( <u>Select largest value</u> )	_____
Describe the site dynamics. _____	
_____	
_____	

=====

Total Hazard Probability Value  
(Sum of Largest Values for A through E--Maximum of 30)

\_\_\_\_\_

Apply this value to Hazard Probability Table 2 to determine  
Hazard Probability Level.

TABLE 2

HAZARD PROBABILITY\*

Description	Level	Hazard Probability Value
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

-----

\* Apply Hazard Probability Level to Table 3.

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ORDNANCE AND EXPLOSIVES  
ARCHIVES SEARCH REPORT  
FOR THE FORMER  
SANFORD NAVAL AUXILIARY AIR FACILITY  
SANFORD, ME  
PROJECT NUMBER D01ME001001

ATTACHMENT D  
RISK ASSESSMENT

Previous editions obsolete

Site Name	<u>Sanford Naval Air Sta.</u>	Rater's Name	<u>Greg Lippman</u>
Site Location	<u>Sanford, ME</u>	Phone No.	<u>(815) 273-8038</u>
DERP Project #	<u>D01ME001001</u>	Organization	<u>CENCR-ED-DO/SIOAC-ESL</u>
Date Completed	<u>28 November 1995</u>	RAC Score	<u>5 (Area D)</u>

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The RAC score will be used by CEHND to prioritize the remedial action at Formerly Used Defense Sites. The OE risk assessment should be based upon best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) detachment actions, and field observations, interviews, and measurements. This information is used to assess the risk involved based upon the potential OE hazards identified at the site. The risk assessment is composed of two factors, **hazard severity** and **hazard probability**. Personnel involved in visits to potential OE sites should view the CEHND videotape entitled "A Life Threatening Encounter: OE."

TYPES OF ORDNANCE  
(Circle all values that apply)

A. Conventional Ordnance and Ammunition	VALUE
Medium/Large Caliber (20 mm and larger)	10
Bombs, Explosive	10
Grenades, Hand and Rifle, Explosive	10
Landmines, Explosive	10
Rockets, Guided Missiles, Explosive	10
Detonators, Blasting Caps, Fuzes, Boosters, Bursters	6
Bombs, Practice (w/spotting charges)	6
Grenades, Practice (w/spotting charges)	4
Landmines, Practice (w/spotting charges)	4
Small Arms, Complete round (.22 cal-.50 cal)	1
Small Arms, Expended	0
Conventional Ordnance and Ammunition	
(Select the largest single value)	

What evidence do you have regarding conventional OE?

B. Pyrotechnics. (For munitions not described above)

VALUE

Munition (Container) Containing  
White Phosphorous or other  
Pyrophoric Material (i.e.,  
Spontaneously Flammable) 10

Munition Containing a Flame  
or Incendiary Material (i.e. Napalm,  
Triethylaluminum Metal Incendiaries) 6

Flares, Signals, Simulators, Screening  
Smoke (other than WP) 4

Pyrotechnics (Select the largest single value) 0

What evidence do you have regarding pyrotechnics? \_\_\_\_\_

---

C. Bulk High Explosives (Not an integral part of convention ordnance;  
uncontainerized.)

VALUE

Primary or Initiating Explosive  
(Lead Styphnate, Lead Azide,  
Nitroglycerin, Mercury Azide,  
Mercury Fulminate, Tetracene, etc.) 10

Demolition Charges 10

Secondary Explosives 8  
(PETN, Composition A, B, C,  
Tetryl, TNT, RDX, HMX, HBX,  
Black Powder, etc).

Military Dynamite 6

Less Sensitive Explosives 3  
(Ammonium Nitrate, Explosive D, etc).

High Explosives (Select the largest single value) 0

What evidence do you have regarding bulk explosives? \_\_\_\_\_

---

D. Bulk Propellants (Not an integral part of rockets, guided missiles, or  
other conventional ordnance; uncontainerized)

VALUE

Solid or Liquid Propellants 6

Propellants 0

What evidence do you have regarding propellants? \_\_\_\_\_

E. Chemical Warfare Material and Radiological Weapons

	VALUE
Toxic Chemical Agents (Choking, Nerve, Blood, Blister)	25
War Gas Identification Sets	20
Radiological	15
Riot Control and Miscellaneous (Vomiting, Tear)	5
Chemical and Radiological (Select the largest single value)	<u>0</u>
What evidence do you have of chemical/radiological OE?	<u>                    </u>

=====

TOTAL HAZARD SEVERITY VALUE 0  
 (Sum of Largest Values for A through E--Maximum of 61).  
 Apply this value to Table 1 to determine Hazard Severity Category.

TABLE 1

HAZARD SEVERITY\*

Description	Category	Hazard Severity Value
CATASTROPHIC	I	21 and greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	(IV)	1 to 4
**NONE		0

\* Apply Hazard Severity Category to Table 3.

\*\* If Hazard Severity Value is 0, you do not need to complete Part II. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.

Part II. Hazard Probability. The probability that a hazard has been or will be created due to the presence and other related factors of unexploded ordnance or explosive materials on a formerly used DOD site.

AREA, EXTENT, ACCESSIBILITY OF CONTAMINATION  
(Circle all values that apply)

A. Locations of OE Hazards

	VALUE
On the surface	5
Within Tanks, Pipes, Vessels or Other confined locations	4
Inside walls, ceilings, or other parts of Buildings or Structures	3
Subsurface	2
Location ( <u>Select the single largest value</u> )	_____
What evidence do you have regarding location of OE?	_____
_____	_____
_____	_____

B. Distance to nearest inhabited locations or structures likely to be at risk from OE hazard (roads, parks, playgrounds, and buildings).

	VALUE
Less than 1250 feet	5
1250 feet to 0.5 miles	4
0.5 miles to 1.0 miles	3
1.0 miles to 2.0 miles	2
Over 2 miles	1
Distance ( <u>Select the single largest value</u> )	_____
What are the nearest inhabited structures?	_____
_____	_____
_____	_____

C. Number of buildings within a 2 mile radius measured from the OE hazard area, not the installation boundary.

	VALUE
26 and over	5
16 to 25	4
11 to 15	3
6 to 10	2
1 to 5	1
0	0
Number of Buildings ( <u>Select the single largest value</u> )	_____
Narrative _____	_____

D. Types of Buildings (within a 2 mile radius)

	VALUE
Educational, Child Care, Residential, Hospitals, Hotels, Commercial, Shopping Centers	5
Industrial, Warehouse, etc.	4
Agricultural, Forestry, etc.	3
Detention, Correctional	2
No Buildings	0
Types of Buildings ( <u>Select the largest single value</u> )	_____
Describe types of buildings in the area. _____	_____
_____	_____

E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:

BARRIER	VALUE
No barrier or security system	5
Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing.	4
A barrier, (of any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	3
Security guard, but no barrier	2
Isolated Site	1
a 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility, or An artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry, at all times, through the gates or other entrances to the facility (e.g., an attendant, television monitor, locked entrance, or controlled roadway access to the facility).	0
Accessibility ( <u>Select the single largest value</u> )	_____
Describe the site accessibility.	_____
_____	_____
_____	_____

F. Site Dynamics - This deals with site conditions that are subject to change in the future, but may be stable at the present. Example would be excessive soil erosion by beaches or streams, increasing land development that could reduce distance from the site to inhabited areas or otherwise increase accessibility.

	VALUE
Expected	5
None Anticipated	0
Site Dynamics ( <u>Select largest value</u> )	_____
Describe the site dynamics.	_____
_____	_____
_____	_____

=====

Total Hazard Probability Value  
(Sum of Largest Values for A through F--Maximum of 30)

\_\_\_\_\_

Apply this value to Hazard Probability Table 2 to determine  
Hazard Probability Level.

TABLE 2

HAZARD PROBABILITY\*

Description	Level	Hazard Probability Value
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

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\* Apply Hazard Probability Level to Table 3.

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RAC 1 Expedite INPR, recommending further action by CEHND - Immediately call CEHND-OE-ES - commercial (205) 895-1582 or DSN 645-1582.

RAC 2 High priority on completion of INPR - Recommend further action by CEHND.

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RAC 4 Complete INPR - Recommend further action by CEHND.

RAC 5 Usually indicates that no further action (NOFA) is necessary. Submit NOFA and RAC to CEHND.

[illegible]

ORDNANCE AND EXPLOSIVES  
ARCHIVES SEARCH REPORT  
FOR THE FORMER  
SANFORD NAVAL AUXILIARY AIR FACILITY  
SANFORD, ME  
PROJECT NUMBER D01ME001001

ATTACHMENT E  
RISK ASSESSMENT

17 Mar 95

Previous editions obsolete

RISK ASSESSMENT PROCEDURES FOR  
ORDNANCE AND EXPLOSIVES (OE) SITES

Site Name	<u>Sanford Naval Air Sta.</u>	Rater's Name	<u>Greg Lippman</u>
Site Location	<u>Sanford, ME</u>	Phone No.	<u>(815) 273-8038</u>
DERP Project #	<u>D01ME001001</u>	Organization	<u>CENCR-ED-DO/SIOAC-ESL</u>
Date Completed	<u>28 November 1995</u>	RAC Score	<u>5 (Entire Site)</u>

## OE RISK ASSESSMENT:

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The RAC score will be used by CEHND to prioritize the remedial action at Formerly Used Defense Sites. The OE risk assessment should be based upon best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) detachment actions, and field observations, interviews, and measurements. This information is used to assess the risk involved based upon the potential OE hazards identified at the site. The risk assessment is composed of two factors, **hazard severity** and **hazard probability**. Personnel involved in visits to potential OE sites should view the CEHND videotape entitled "A Life Threatening Encounter: OE."

Part 1. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible mishap resulting from personnel exposure to various types and quantities of unexploded ordnance items.

TYPES OF ORDNANCE  
(Circle all values that apply)

A. Conventional Ordnance and Ammunition	VALUE
Medium/Large Caliber (20 mm and larger)	10
Bombs, Explosive	10
Grenades, Hand and Rifle, Explosive	10
Landmines, Explosive	10
Rockets, Guided Missiles, Explosive	10
Detonators, Blasting Caps, Fuzes, Boosters, Bursters	6
Bombs, Practice (w/spotting charges)	6
Grenades, Practice (w/spotting charges)	4
Landmines, Practice (w/spotting charges)	4
Small Arms, Complete round (.22 cal-.50 cal)	1
Small Arms, Expended	(0)
Conventional Ordnance and Ammunition	<u>0</u>
(Select the largest single value)	
What evidence do you have regarding conventional OE?	_____

B. Pyrotechnics. (For munitions not described above)

VALUE

Munition (Container) Containing  
White Phosphorous or other  
Pyrophoric Material (i.e.,  
Spontaneously Flammable) 10

Munition Containing a Flame  
or Incendiary Material (i.e. Napalm,  
Triethylaluminum Metal Incendiaries) 6

Flares, Signals, Simulators, Screening  
Smoke (other than WP) 4

Pyrotechnics (Select the largest single value) 0

What evidence do you have regarding pyrotechnics? \_\_\_\_\_

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C. Bulk High Explosives (Not an integral part of convention ordnance;  
uncontainerized.)

VALUE

Primary or Initiating Explosive  
(Lead Styphnate, Lead Azide,  
Nitroglycerin, Mercury Azide,  
Mercury Fulminate, Tetracene, etc.) 10

Demolition Charges 10

Secondary Explosives 8  
(PETN, Composition A, B, C,  
Tetryl, TNT, RDX, HMX, HBX,  
Black Powder, etc).

Military Dynamite 6

Less Sensitive Explosives 3  
(Ammonium Nitrate, Explosive D, etc).

High Explosives (Select the largest single value) 0

What evidence do you have regarding bulk explosives? \_\_\_\_\_

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D. Bulk Propellants (Not an integral part of rockets, guided missiles, or  
other conventional ordnance; uncontainerized)

VALUE

Solid or Liquid Propellants 6

Propellants 0

What evidence do you have regarding propellants? \_\_\_\_\_

### E. Chemical Warfare Material and Radiological Weapons

	VALUE
Toxic Chemical Agents (Choking, Nerve, Blood, Blister)	25
War Gas Identification Sets	20
Radiological	15
Riot Control and Miscellaneous (Vomiting, Tear)	5
Chemical and Radiological ( <u>Select the largest single value</u> )	<u>0</u>
What evidence do you have of chemical/radiological OE?	<u></u>

TOTAL HAZARD SEVERITY VALUE 0  
 (Sum of Largest Values for A through E--Maximum of 61).  
 Apply this value to Table 1 to determine Hazard Severity Category.

TABLE 1

## HAZARD SEVERITY\*

Description	Category	Hazard Severity Value
CATASTROPHIC	I	21 and greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	(IV)	1 to 4
**NONE		0

\* Apply Hazard Severity Category to Table 3.

**\*\* If Hazard Severity Value is 0, you do not need to complete Part II. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.**

Part II. Hazard Probability. The probability that a hazard has been or will be created due to the presence and other related factors of unexploded ordnance or explosive materials on a formerly used DOD site.

AREA, EXTENT, ACCESSIBILITY OF CONTAMINATION  
(Circle all values that apply)

A. Locations of OE Hazards

	VALUE
On the surface	5
Within Tanks, Pipes, Vessels or Other confined locations	4
Inside walls, ceilings, or other parts of Buildings or Structures	3
Subsurface	2
Location ( <u>Select the single largest value</u> )	_____
What evidence do you have regarding location of OE?	_____
	_____
	_____

B. Distance to nearest inhabited locations or structures likely to be at risk from OE hazard (roads, parks, playgrounds, and buildings).

	VALUE
Less than 1250 feet	5
1250 feet to 0.5 miles	4
0.5 miles to 1.0 miles	3
1.0 miles to 2.0 miles	2
Over 2 miles	1
Distance ( <u>Select the single largest value</u> )	_____
What are the nearest inhabited structures?	_____
	_____
	_____

C. Number of buildings within a 2 mile radius measured from the OE hazard area, not the installation boundary.

	VALUE
26 and over	5
16 to 25	4
11 to 15	3
6 to 10	2
1 to 5	1
0	0
Number of Buildings ( <u>Select the single largest value</u> )	_____
Narrative _____	_____

D. Types of Buildings (within a 2 mile radius)

	VALUE
Educational, Child Care, Residential, Hospitals, Hotels, Commercial, Shopping Centers	5
Industrial, Warehouse, etc.	4
Agricultural, Forestry, etc.	3
Detention, Correctional	2
No Buildings	0
Types of Buildings ( <u>Select the largest single value</u> )	_____
Describe types of buildings in the area. _____	_____

E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:

BARRIER	VALUE
No barrier or security system	5
Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing.	4
A barrier, (of any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	3
Security guard, but no barrier	2
Isolated Site	1
a 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility, or An artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry, at all times, through the gates or other entrances to the facility (e.g., an attendant, television monitor, locked entrance, or controlled roadway access to the facility).	0
Accessibility ( <u>Select the single largest value</u> )	_____
Describe the site accessibility.	_____
	_____
	_____

F. Site Dynamics - This deals with site conditions that are subject to change in the future, but may be stable at the present. Example would be excessive soil erosion by beaches or streams, increasing land development that could reduce distance from the site to inhabited areas or otherwise increase accessibility.

	VALUE
Expected	5
None Anticipated	0
Site Dynamics ( <u>Select largest value</u> )	_____
Describe the site dynamics.	_____
	_____
	_____

=====

Total Hazard Probability Value  
(Sum of Largest Values for A through F--Maximum of 30)

\_\_\_\_\_

Apply this value to Hazard Probability Table 2 to determine  
Hazard Probability Level.

TABLE 2

HAZARD PROBABILITY\*

Description	Level	Hazard Probability Value
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

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\* Apply Hazard Probability Level to Table 3.

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Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table 3. Enter with the results of the hazard probability and hazard severity values.

TABLE 3

Probability Level		FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
Severity Category:						
CATASTROPHIC	I	1	1	2	3	4
CRITICAL	II	1	2	3	4	5
MARGINAL	III	2	3	4	4	5
NEGLIGIBLE	IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

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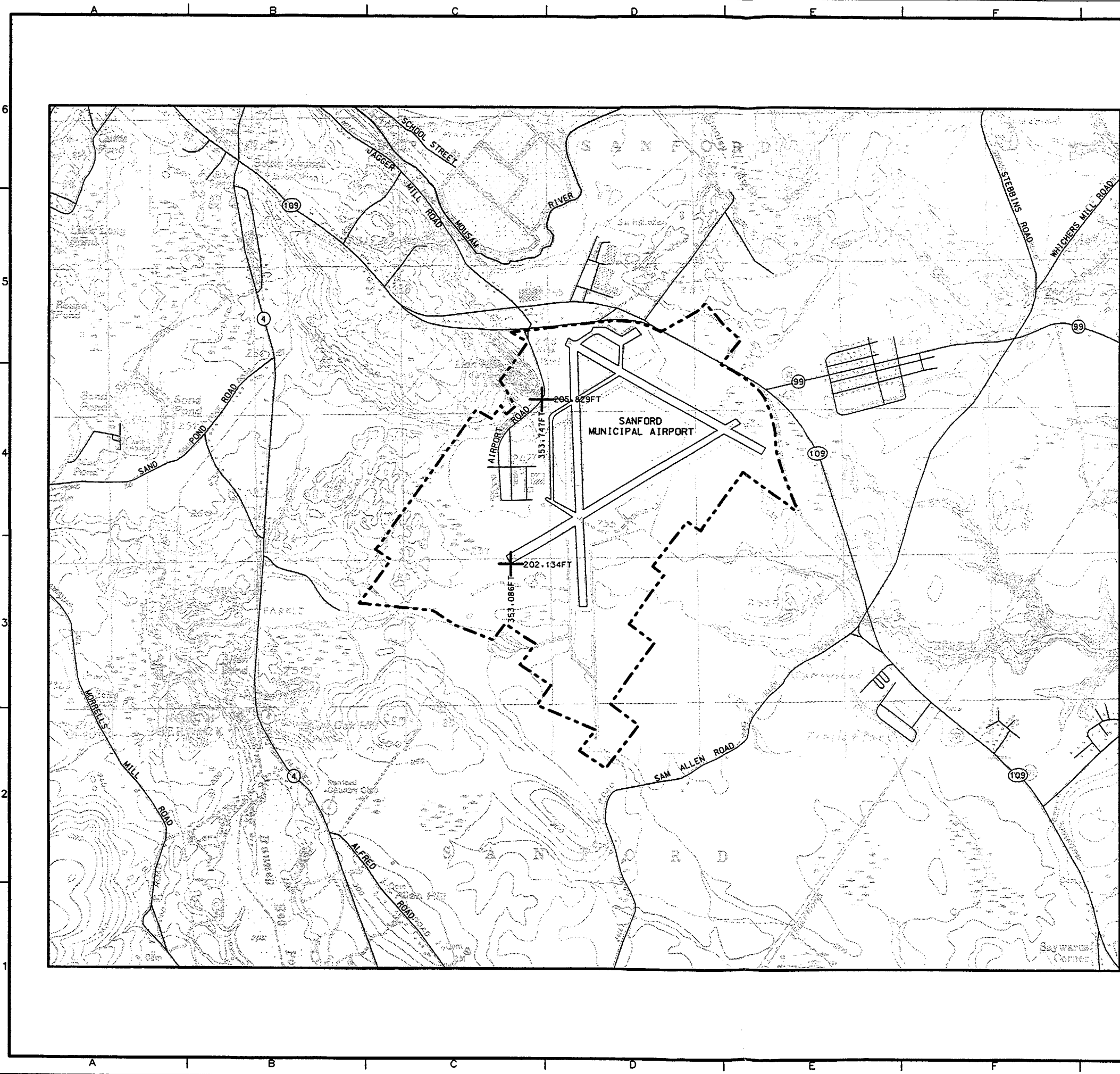
RAC 5 Usually indicates that no further action (NOFA) is necessary. Submit NOFA and RAC to CEHND.

Part IV. Narrative. Summarize the documented evidence that support this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

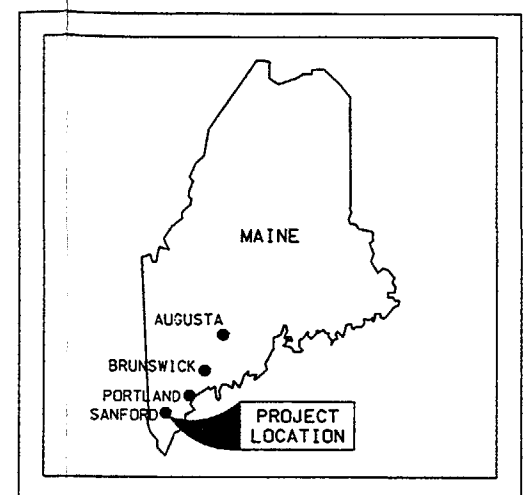
The possibility exists of lead contamination in the soil of the skeet range (Area A) due to shotgun shell shot. The soil, ground water, and surface water of the area around the target butt of the machine gun range (Area B) and the newly created wetland in the southern extents of the airport property may also contain lead contamination due to large quantities of spent bullets in the target butt. The potential contamination in these areas may warrant further investigation but should be placed in a low priority status.

ORDNANCE AND EXPLOSIVES  
ARCHIVES SEARCH REPORT  
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SANFORD NAVAL AUXILIARY AIR FACILITY  
SANFORD, ME  
PROJECT NUMBER D01ME001001

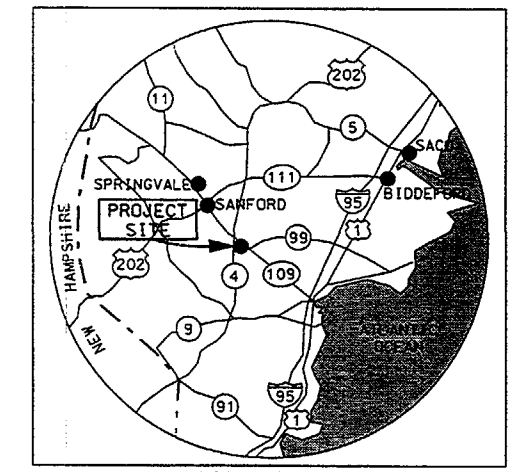
REPORT PLATES



US Army Corps  
of Engineers  
Rock Island  
District



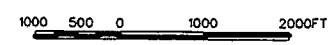
STATE MAP



VICINITY MAP

LEGEND

- SITE BOUNDARY - - - - -
- STATE PLANE COORDINATES +
- STATE HIGHWAY ○
- U.S. HIGHWAY ⬢
- INTERSTATE HIGHWAY ⬢
- ROADS ———



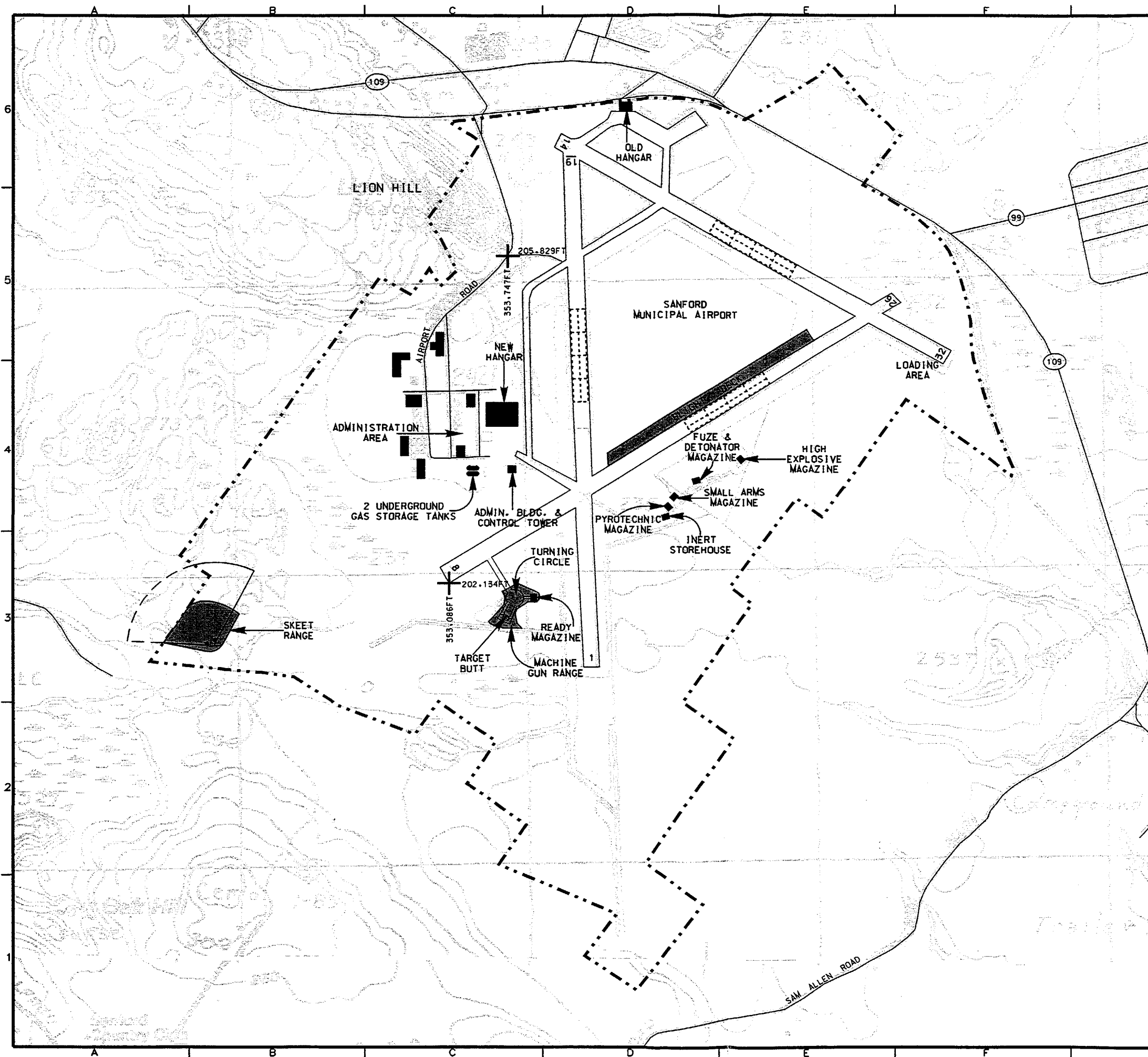
Designed By	XX XXX XX
Drawn By	AS SHOWN
Checked By	Brewing Code
Reviewed By	XXXXX
Project Number	001001001

U.S. ARMY ENGINEER DISTRICT  
CORPS OF ENGINEERS  
ROCK ISLAND, ILLINOIS

SANFORD NAVAL FACILITY  
AUXILIARY, SANFORD, MAINE

Sheet  
Reference  
Number:  
PLATE 1  
Sheet 1 of 4

05-728-1386 15117  
enrprojctscap150ap150p01.dgn



**LEGEND**

- SITE BOUNDARY
- STATE PLANE COORDINATES +
- STATE HIGHWAY 109
- ROADS
- STRUCTURES
- UNDERGROUND STORAGE TANK
- SIMULATED AIRCRAFT-CARRIER DECK

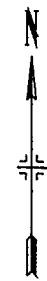
500 250 0 500 1000FT

Designed By	XX XXX XX
Drawn By	JEFF MCCREY
Checked By	JEFF MCCREY
Reviewed By	GREG LIPPMAN
Project Number	XXXX
Date	AS SHOWN
Scale	AS SHOWN
Project Name	Sanford Municipal Airport

SANFORD NAVAL FACILITY  
 AUXILIARY AIR FIELD  
 SANFORD, MAINE  
**FACILITY LAYOUT**  
**30 JUNE 1945**

Sheet  
 Reference  
 Number:  
**PLATE 2**  
 Sheet 2 of 4

10-206-1011, 1013  
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10-2011-2012-2013-2014-2015-2016-2017-2018-2019-2020-2021-2022-2023-2024-2025-2026-2027-2028-2029-2030-2031-2032-2033-2034-2035-2036-2037-2038-2039-2040-2041-2042-2043-2044-2045-2046-2047-2048-2049-2050-2051-2052-2053-2054-2055-2056-2057-2058-2059-2060-2061-2062-2063-2064-2065-2066-2067-2068-2069-2070-2071-2072-2073-2074-2075-2076-2077-2078-2079-2080-2081-2082-2083-2084-2085-2086-2087-2088-2089-2090-2091-2092-2093-2094-2095-2096-2097-2098-2099-2100-2101-2102-2103-2104-2105-2106-2107-2108-2109-2110-2111-2112-2113-2114-2115-2116-2117-2118-2119-2120-2121-2122-2123-2124-2125-2126-2127-2128-2129-2130-2131-2132-2133-2134-2135-2136-2137-2138-2139-2140-2141-2142-2143-2144-2145-2146-2147-2148-2149-2150-2151-2152-2153-2154-2155-2156-2157-2158-2159-2160-2161-2162-2163-2164-2165-2166-2167-2168-2169-2170-2171-2172-2173-2174-2175-2176-2177-2178-2179-2180-2181-2182-2183-2184-2185-2186-2187-2188-2189-2190-2191-2192-2193-2194-2195-2196-2197-2198-2199-2200-2201-2202-2203-2204-2205-2206-2207-2208-2209-2210-2211-2212-2213-2214-2215-2216-2217-2218-2219-2220-2221-2222-2223-2224-2225-2226-2227-2228-2229-2230-2231-2232-2233-2234-2235-2236-2237-2238-2239-2240-2241-2242-2243-2244-2245-2246-2247-2248-2249-2250-2251-2252-2253-2254-2255-2256-2257-2258-2259-2260-2261-2262-2263-2264-2265-2266-2267-2268-2269-2270-2271-2272-2273-2274-2275-2276-2277-2278-2279-2280-2281-2282-2283-2284-2285-2286-2287-2288-2289-2290-2291-2292-2293-2294-2295-2296-2297-2298-2299-2300-2301-2302-2303-2304-2305-2306-2307-2308-2309-2310-2311-2312-2313-2314-2315-2316-2317-2318-2319-2320-2321-2322-2323-2324-2325-2326-2327-2328-2329-2330-2331-2332-2333-2334-2335-2336-2337-2338-2339-2340-2341-2342-2343-2344-2345-2346-2347-2348-2349-2350-2351-2352-2353-2354-2355-2356-2357-2358-2359-2360-2361-2362-2363-2364-2365-2366-2367-2368-2369-2370-2371-2372-2373-2374-2375-2376-2377-2378-2379-2380-2381-2382-2383-2384-2385-2386-2387-2388-2389-2390-2391-2392-2393-2394-2395-2396-2397-2398-2399-2400-2401-2402-2403-2404-2405-2406-2407-2408-2409-2410-2411-2412-2413-2414-2415-2416-2417-2418-2419-2420-2421-2422-2423-2424-2425-2426-2427-2428-2429-2430-2431-2432-2433-2434-2435-2436-2437-2438-2439-2440-2441-2442-2443-2444-2445-2446-2447-2448-2449-2450-2451-2452-2453-2454-2455-2456-2457-2458-2459-2460-2461-2462-2463-2464-2465-2466-2467-2468-2469-2470-2471-2472-2473-2474-2475-2476-2477-2478-2479-2480-2481-2482-2483-2484-2485-2486-2487-2488-2489-2490-2491-2492-2493-2494-2495-2496-2497-2498-2499-2500-2501-2502-2503-2504-2505-2506-2507-2508-2509-2510-2511-2512-2513-2514-2515-2516-2517-2518-2519-2520-2521-2522-2523-2524-2525-2526-2527-2528-2529-2530-2531-2532-2533-2534-2535-2536-2537-2538-2539-2540-2541-2542-2543-2544-2545-2546-2547-2548-2549-2550-2551-2552-2553-2554-2555-2556-2557-2558-2559-2560-2561-2562-2563-2564-2565-2566-2567-2568-2569-2570-2571-2572-2573-2574-2575-2576-2577-2578-2579-2580-2581-2582-2583-2584-2585-2586-2587-2588-2589-2590-2591-2592-2593-2594-2595-2596-2597-2598-2599-2600-2601-2602-2603-2604-2605-2606-2607-2608-2609-2610-2611-2612-2613-2614-2615-2616-2617-2618-2619-2620-2621-2622-2623-2624-2625-2626-2627-2628-2629-2630-2631-2632-2633-2634-2635-2636-2637-2638-2639-2640-2641-2642-2643-2644-2645-2646-2647-2648-2649-2650-2651-2652-2653-2654-2655-2656-2657-2658-2659-2660-2661-2662-2663-2664-2665-2666-2667-2668-2669-2670-2671-2672-2673-2674-2675-2676-2677-2678-2679-2680-2681-2682-2683-2684-2685-2686-2687-2688-2689-2690-2691-2692-2693-2694-2695-2696-2697-2698-2699-2700-2701-2702-2703-2704-2705-2706-2707-2708-2709-2710-2711-2712-2713-2714-2715-2716-2717-2718-2719-2720-2721-2722-2723-2724-2725-2726-2727-2728-2729-2730-2731-2732-2733-2734-2735-2736-2737-2738-2739-2740-2741-2742-2743-2744-2745-2746-2747-2748-2749-2750-2751-2752-2753-2754-2755-2756-2757-2758-2759-2760-2761-2762-2763-2764-2765-2766-2767-2768-2769-2770-2771-2772-2773-2774-2775-2776-2777-2778-2779-2780-2781-2782-2783-2784-2785-2786-2787-2788-2789-2790-2791-2792-2793-2794-2795-2796-2797-2798-2799-2800-2801-2802-2803-2804-2805-2806-2807-2808-2809-2810-2811-2812-2813-2814-2815-2816-2817-2818-2819-2820-2821-2822-2823-2824-2825-2826-2827-2828-2829-2830-2831-2832-2833-2834-2835-2836-2837-2838-2839-2840-2841-2842-2843-2844-2845-2846-2847-2848-2849-2850-2851-2852-2853-2854-2855-2856-2857-2858-2859-2860-2861-2862-2863-2864-2865-2866-2867-2868-2869-2870-2871-2872-2873-2874-2875-2876-2877-2878-2879-2880-2881-2882-2883-2884-2885-2886-2887-2888-2889-2890-2891-2892-2893-2894-2895-2896-2897-2898-2899-2900-2901-2902-2903-2904-2905-2906-2907-2908-2909-2910-2911-2912-2913-2914-2915-2916-2917-2918-2919-2920-2921-2922-2923-2924-2925-2926-2927-2928-2929-2930-2931-2932-2933-2934-2935-2936-2937-2938-2939-2940-2941-2942-2943-2944-2945-2946-2947-2948-2949-2950-2951-2952-2953-2954-2955-2956-2957-2958-2959-2960-2961-2962-2963-2964-2965-2966-2967-2968-2969-2970-2971-2972-2973-2974-2975-2976-2977-2978-2979-2980-2981-2982-2983-2984-2985-2986-2987-2988-2989-2990-2991-2992-2993-2994-2995-2996-2997-2998-2999-3000-3001-3002-3003-3004-3005-3006-3007-3008-3009-30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SUMMARY OF AREAS			
AREA	FORMER USAGE	OE PRESENCE	ACREAGE*
A	SKEET RANGE	UNCONTAMINATED	7.30
B	MACHINE GUN RANGE	UNCONTAMINATED	3.12
C	MAGAZINE AREA	UNCONTAMINATED	5.56
D	REMAINING LAND	UNCONTAMINATED	1081.02
ACTUAL TOTAL ACREAGE			1097.00
FDE TOTAL ACREAGE			1526.02**
* APPROXIMATE ACREAGE			
** SEE NOTE 2			

NOTE 1: AREA A IS LIMITED TO LESS THAN HALF OF THE FIRING FAN OF THE SKEET RANGE DUE TO THE SIZE OF SHOT USED ON A RANGE OF THIS TYPE AND DUE TO THE LARGE CURTAIN OF TREES THAT EXISTED ON THIS SUBSITE DURING ITS PERIOD OF OPERATION. THESE TREES, WHICH CROWDED AROUND THE RANGE, BLOCKED THE FLIGHT PATH OF THE SHOT AFTER IT PASSED THE TARGET AREA.

NOTE 2: RECENT LAND SURVEYS AND EYEWITNESS SOURCES INDICATE A DIFFERENCE BETWEEN SOME ARCHIVAL ACCOUNTS OF THIS INSTALLATION'S SIZE AND ITS ACTUAL SITE BOUNDARY ACREAGE OF 1.097 ACRES (SEE PARAGRAPH 5a(1)).

LEGEND

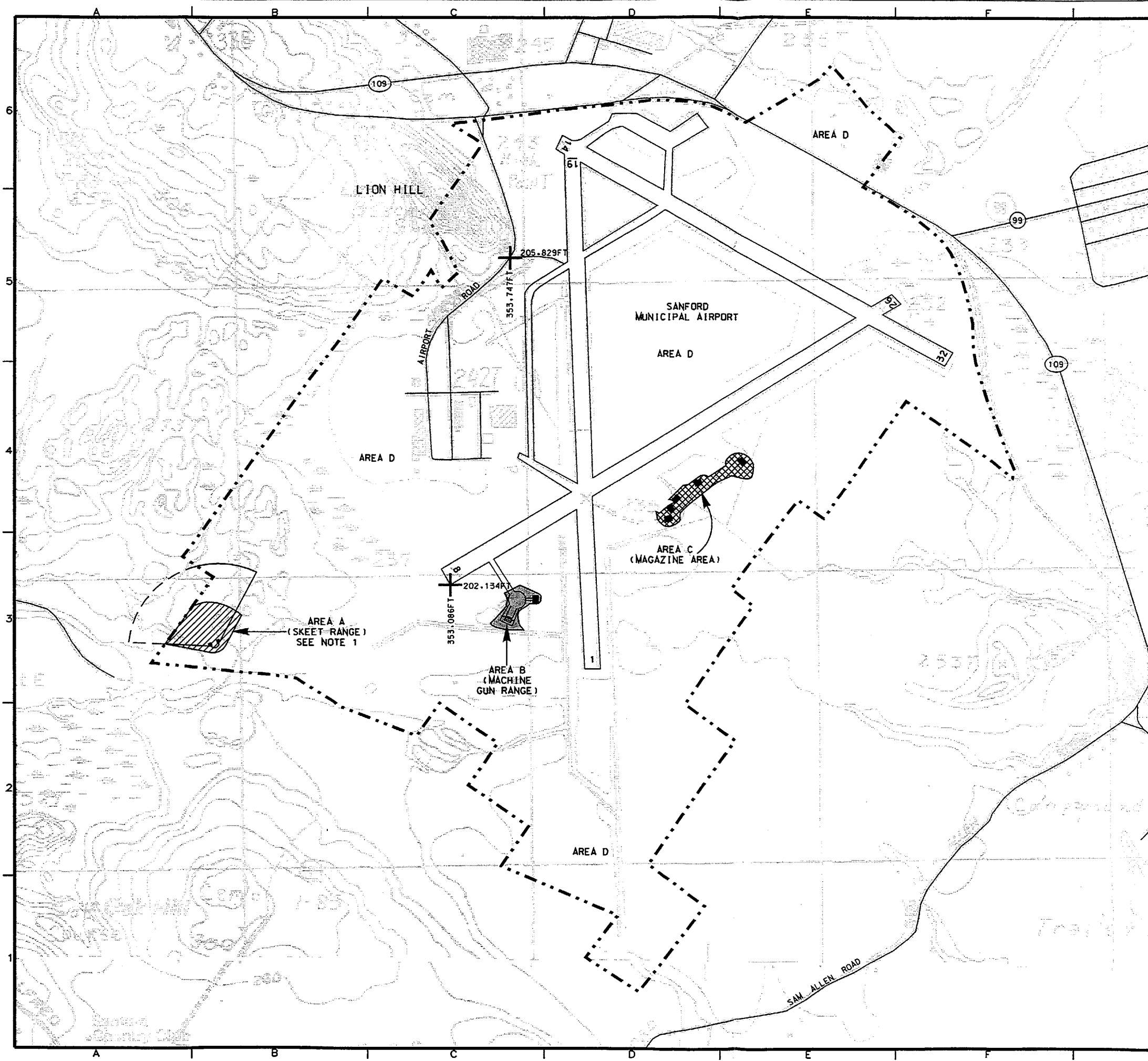
- SITE BOUNDARY - - - - -
- STATE PLANE COORDINATES +
- STATE HIGHWAY ○
- ROADS —
- STRUCTURES ■

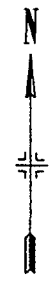
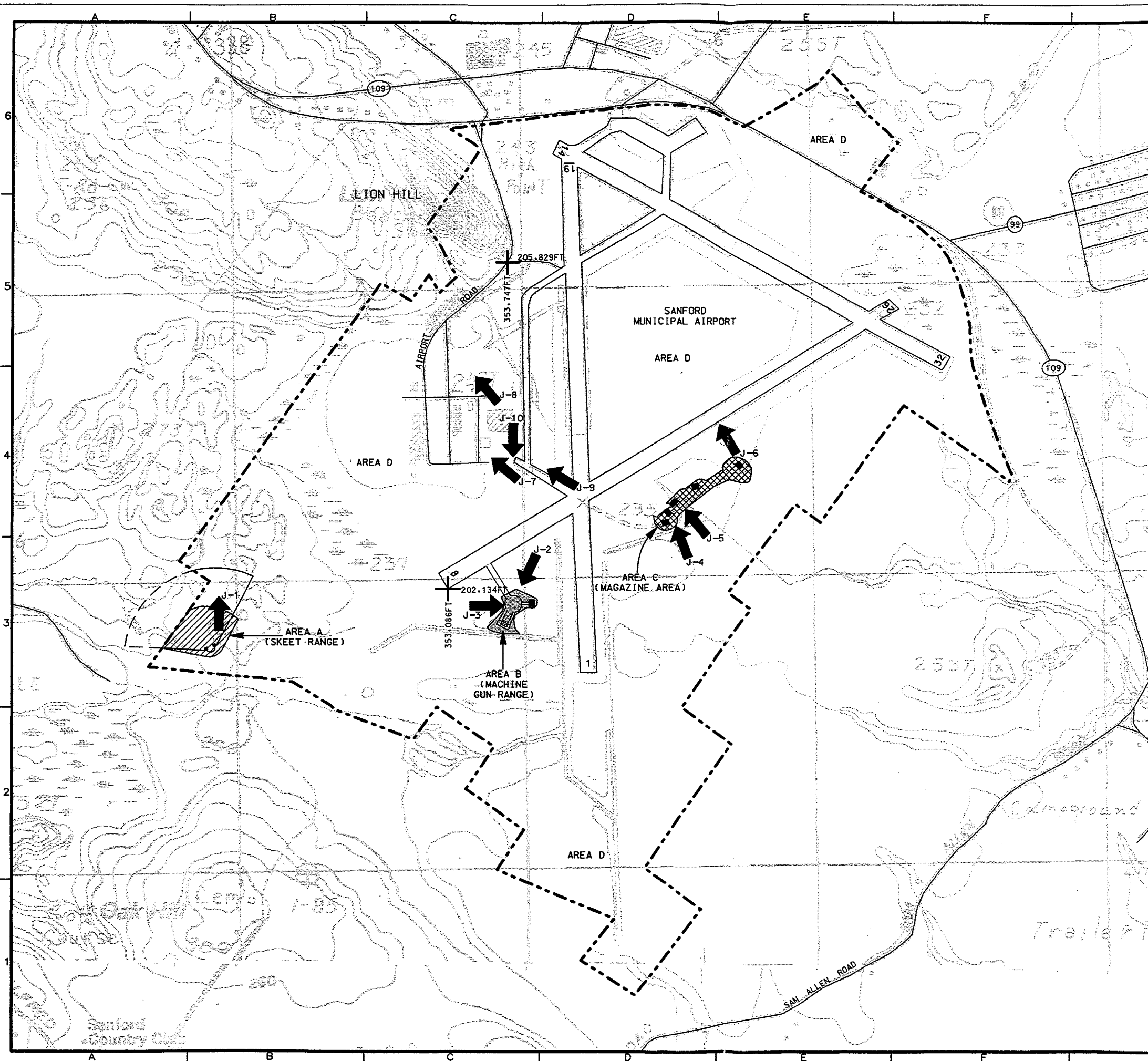


Designed By	XX XXX XX
Drawn By	AS SHOWN
Checked By	XXXX
Reviewed By	Project Number
U.S. ARMY ENGINEER DISTRICT	Rock Island, Illinois

SANFORD NAVAL FACILITY  
AUXILIARY AIR FIELD  
SANFORD, MAINE  
PROJECT AREAS

Sheet  
Reference  
Number:  
PLATE 3  
Sheet 3 of 4





CURRENT OWNERSHIP	
AREA	OWNER
	TOWN OF SANFORD
	TOWN OF SANFORD
	TOWN OF SANFORD
	VARIOUS OWNERS WITH THE TOWN OF SANFORD IN POSSESSION OF THE MAJOR PORTION OF THE LAND

LEGEND

- SITE BOUNDARY
- STATE PLANE COORDINATES
- STATE HIGHWAY
- ROADS
- STRUCTURES
- PHOTO LOCATION



Designed By:	XX XXX XX
Drawn By:	AS SHOWN
Checked By:	XXXXX
Reviewed By:	XXXXX
Project Number:	001400100
U.S. ARMY ENGINEER DISTRICT ROCK ISLAND DISTRICT	

SANFORD NAVAL AUXILIARY  
CURRENT OWNERSHIP  
(1995)  
PHOTO LOCATIONS

Sheet  
Reference  
Number:  
PLATE 4  
Sheet 4 of 4